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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/003,729	11/14/2001	Beomsup Kim	BEKAP002	2680

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EXAMINER

GLENN, KIMBERLY E

ART UNIT PAPER NUMBER

2817

DATE MAILED: 08/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/003,729

Applicant(s)

KIM, BEOMSUP

Examiner

Kimberly E Glenn

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 May 2003.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 7-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 7-10 is/are rejected.
- 7) ☒ Claim(s) 11 and 12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All   b) ☐ Some \*   c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 10.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Claim Objections***

Claims 7 and 12 are objected to because of the following informalities: In claim 7, line 11; “ first oscillator “ should be changed to - - first oscillator stage- -. In claim 12, line 7; “forth” should be changed to - - fourth- -. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 7-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Jeong et al US Patent 5,561,398.

Jeong et al disclose an oscillator comprising a first oscillator stage 310 having a first oscillator stage first input Via1-, a first oscillator second input Via1+ and a first oscillator stage output V1+; a second oscillator stage 320 having a second oscillator stage input Vi2- and a second oscillator stage output V2+ wherein the first oscillator stage output V1+ is input to the second oscillator input Vi2- and wherein the second oscillator stage output V2+ is fed back to the first oscillator stage second input V1a+; a third oscillator stage 330 having a third oscillator stage input Vi3- and a third oscillator stage output V3+ wherein the second oscillator stage output V2+ is fed to the third oscillator stage input Vi3-. The oscillator stages are single ended. The phase relationship of signal being fed to the first oscillator stage first input and the first oscillator stage second input is such that the total input of the first oscillator is enhanced. The multiple

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inputs of the first oscillator stage each have a difference phases. The interaction of the different phases will inherently enhance the first oscillator stage. (See column 1 line 38 through line 49; column 8 line 59 through column 12 line 42 and column 14 line 5 through line 29 and figures 3A, 4 and 7)

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jeong et al US Pat. 6,094,103(of record) in view of Rasmussen US Pat. 5,561,398.

The primary reference, Jeong et al teaches an oscillator comprising a first oscillator stage 310 having a first oscillator stage first input Via1-, a first oscillator second input Via1+ and a first oscillator stage output V1+; a second oscillator stage 320 having a second oscillator stage input Vi2- and a second oscillator stage output V2+ wherein the first oscillator stage output V1+is input to the second oscillator input Vi2- and wherein the second oscillator stage output V2+ is fed back to the first oscillator stage second input V1a+; a third oscillator stage 330 having a third oscillator stage input Vi3- and a third oscillator stage output V3+ wherein the second oscillator stage output V2+ is fed to the third oscillator stage input Vi3-. (See column 1 line 38 through line 49; column 8 line 59 through column 12 line 42 and column 14 line 5 through line 29 and figures 3A, 4 and 7)

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Thus, Jeong et al is shown to teach all the limitations of the claim with the exception of the oscillator stages being LC tank oscillators.

Rasmussen shown that it is well known in the art for voltage controlled oscillators to comprise a plurality of oscillator stages being comprised on LC tank oscillator.

One skilled in the art at the time of the invention would have found to obvious to replace the plurality of oscillator of Jeong et al with the LC tank oscillator of Rasmussen, since Examiner takes notice of the equivalence of the oscillators of Jeong et al and LC oscillators of Rasmussen for their use in the communication art and the selection of any of theses known equivalents to provide an oscillation would be within level of ordinary skill in the art.

#### ***Response to Arguments***

Applicant's arguments filed 5/27/03 have been fully considered but they are not persuasive. With regards to applicant's argument that the Jeong et al recognizes that narrow tuning range problem associated with LC oscillator. Applicants claims do not recited any limitations regard tuning range and therefore use of LC oscillator would not affect the performance of the claimed oscillator. With regards to argument that is not enough motivation/suggestion to combine oscillator taught by Jeong et al with LC tank oscillator taught by Rasmussen. Rasmussen discloses the motivation that LC ring oscillator would provide multiple phases having improved frequency stability. With regards to claim 12, Applicant's arguments have been considered but are moot. Claim 7 is the combination of claims 1 and deleted claim 5. Claim 5 was rejected based on Jeong et al in the office action dated 10/18/02.

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***Allowable Subject Matter***

Claims 11 and 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: with regards to claim 11, the prior art of record does not disclose or fairly teach the phase difference between the signal being fed to the first oscillator stage first input and the first oscillator stage second input being approximately 45 degrees. With regard to claim 12, the prior art of record does not disclose or fairly teach a fourth oscillator positive output being fed to the first oscillator stage first negative input and the fourth oscillator stage negative output being fed to the first oscillator stage first positive input.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kimberly E Glenn whose telephone number is (703) 306-5942.

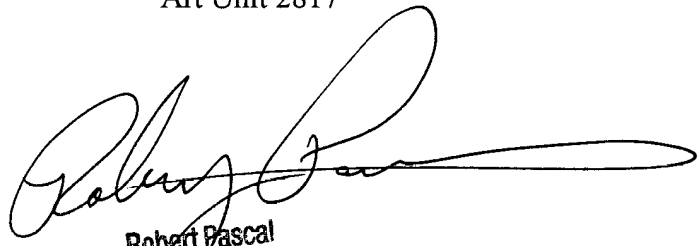
The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on (703) 308-4909. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7724 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Kimberly E Glenn  
Examiner  
Art Unit 2817

keg  
August 11, 2003



Robert Pascal  
Supervisory Patent Examiner  
Technology Center 2800